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SUGHRUE MION, PLLC				
2100 PENNSYLVANIA AVENUE, N.W.				
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WASHINGTON, DC 20037				
EXAMINER				
WHITTINGTON, KENNETH				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,990

Applicant(s)

YABE ET AL.

Examiner

KENNETH J. WHITTINGTON

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2008 and 15 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-48 is/are pending in the application.
- 4a) Of the above claim(s) 16-28 and 35-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15 and 29-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-849)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/15/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The Amendment filed November 20, 2008 and the Response to the Restriction Requirement filed January 15, 2009 have been entered and considered.

Election/Restrictions

Applicant's election without traverse of Group I, Species II in the reply filed on January 15, 2009 is acknowledged. Accordingly, claims 15 and 29-34 will be examined in this action, the remaining claims withdrawn from consideration. Because the election is made without traverse, the Restriction is made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: what feature(s) have the recited dimensions, i.e., the heights Ra and Rz. The claims recite certain dimensions relating to the fixed member, but not what features or components of the fixed member which have the dimensions. Thus, it is unclear to which elements the claims refer.

The claims appear to be referring to a roughening feature of the fixed member after reviewing the specification, wherein these heights refer to a series of recesses and

projections. Amending this claim to recite the "fixed member has recesses and projections having 0.2 through 2.0 μm by an arithmetic mean height" would overcome this rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. (US2002/-141673), hereinafter Ito. Regarding claim 15, Ito discloses a bearing for a wheel sensor comprising:

a fixed ring (See Ito FIG. 13, item 3),

a rotating ring (See FIG. 13, item 2),

a plurality of rolling members rollably arranged in a circumferential direction between the fixed ring and the rotating ring (See FIG. 13, items 4), and

a magnetic encoder, wherein the magnetic encoder comprises a magnet portion substantially in a circular ring shape magnetized in multipoles in a circumferential direction and a fixed member (See FIG. 13, note magnet portion 101 and fixed member 102), and

the magnet portion is bonded to the fixed member and includes a magnetic member and a thermoplastic resin (See paragraphs 0011-0012).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Nakajima (US2003/0059139).

Regarding claims 29 and 31, Ito teaches as noted above bonding the magnet portion to the fixed member, but does not explicitly teach the material used for bonding. Nakajima teaches bonding a magnet portion to a fixed member using a bonding agent comprising epoxy resin, epoxy phenol resin or epoxy melamine and others (See Nakajima paragraphs 0094-0095). It would have been obvious at the time the invention was made to incorporate the bonding agents taught in Nakajima as the bonding material for the magnet portion and the fixed member of Ito. One having ordinary skill in the art would do so because while Ito discloses the use of an agent, Ito does not teach any particular, thus one having ordinary skill in the art would look to other similar encoders, such as Nakajima, which teach the use of the noted bonding agents which provide favorable bondability even after use for a prolonged period of time (See Nakajima paragraph 0094).

Regarding claims 30 and 32, this combination teaches the magnet portion is formed by insert molding (See Ito paragraph 0012). However, this combination does

not explicitly teach the phenolic resin agent and/or the epoxy agent being cured during the insert molding of the magnet portion. Another portion of Nakajima teaches a process for forming a thermoplastic magnet comprising insert molding the magnet portion and during such insert molding, pouring the resin into the mold assembly to bond the magnet portion to the fixed member (See Nakajima paragraph 0008). It would have been obvious at the time the invention was made to provide the bonding resins during insert molding to the magnet portion and the fixed member such that the bonding, which would include the step of curing, would occur simultaneously as taught by Nakajima in the noted combination above. One having ordinary skill in the art would do so to perform several construction steps simultaneously, thus shortening construction time for the magnetic encoder.

Regarding claim 33, this combination teaches bonding the magnet portion and the fixed portion using epoxy resin or an epoxy phenolic resin, such bonding would include a curing of the resin to complete the bonding process. Because this combination teaches the same bonding agents used to bond the magnet portion and the fixed member as those of Applicants' claimed invention, these bonding agents would have the same Young's modulus and hardness. Furthermore, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation See MPEP 2144.05(II). One having ordinary skill in the art would know to cure the bonding agents to those ranges cited in the claim in order to make prevent the cured bonding agent from getting too

elastic thus loosing holding strength and too hard which would make the bonding agents brittle.

Claim 34, as best understood in view of the 112 rejection note above, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Nakajima as applied to claim 30 above, and further in view of Norimatsu (JP2003/057070). Regarding this claim, Ito in view of Nakajima teaches the features of claims 1 and 4 as noted above, but not any roughening. It is well known and further Norimatsu teaches a magnetic encoder having a magnet affixed onto a steel plate or fixed member wherein at least a bonding face of the fixed member to the magnet portion is subject to a roughening treatment (See Norimatsu FIG. 1, items 11 and 14 and see paragraphs 0005 and 0019-0024). It would have been obvious to provide a roughened surface on the steel fixed member before adhesively mounting the magnet in the noted combination as taught by Norimatsu. One having ordinary skill in the art would do so raise the adhesion of the mounting of the magnet (See Norimatsu paragraph 0004).

It is also noted that this combination using roughening does not explicitly teach the extent of the roughening. Nonetheless, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation See MPEP 2144.05(II). The extent of the roughening treatment is a result oriented variable depending on the physical parameters of the materials being bonded and the consistency of the bonding agent. Thus, one having ordinary skill in the art would provide the recited roughening recess and height ranges

recited in the claims depending on the desired bonding strength and the physical parameters of the materials used and bonded.

Response to Arguments

Applicant's arguments with respect to claims 15 and 29-34 have been considered but are moot in view of the new grounds of rejection. The new grounds were required in view of the cancellation of the prior rejected claims and inclusion of the new set of claims provided in the Amendment. Such new claims which included numerous features not contained in the claims as filed also presented multiple distinct inventions and species requiring the Restriction Requirement.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth J Whittington/
Primary Examiner, Art Unit 2862

kjw